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ABSTRACT

A practicum was developed and implemented to help identify, give direction to, and build self-motivation in high ability sixth-grade students attending a magnet school in a progressive, fast-growing southwestern school district. It was felt that students must be in the driver's seat for them to have ownership for working up to their potential. Goal setting would help direct students to focus on their educational and future desires. Reflective writing would provide students with a tool for self-assessment. Reflective thinking and writing would lead students to a greater sense of responsibility toward the goals they had set and to a greater understanding of their accomplishments resulting in self-motivation. The objectives for the practicum were for students to show a 20% increase in their goal accomplishment measured by student scoring through the use of a rubric and a 20% increase in ability to write reflectively measured by students and teacher scoring through the use of a rubric. Both objectives were met with the target group improving in both areas. Contains 16 references and 4 tables of data. Appendixes include goal setting forms and reflective thinking questions. (Author/RS)

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ED 392 065

INCREASING REFLECTIVE WRITING AND GOAL SETTING SKILLS IN HIGH ABILITY SIXTH GRADE MATHEMATICS STUDENTS

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By

Sharon D. Edwins

A practicum Report

submitted to the Faculty of the Fischler Center for the Advancement of Education of Nova Southeastern University in partial fulfillment of the requirements for the degree of Master of Science

The Abstract of this report may be placed in a National Database System for reference.

July 18, 1995

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Abstract

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Descriptors: Reflective Writing/Goal Setting/Middle-Grade Students/Self-Motivation/Potential and Performance.

This program was developed and implemented to help identify, give direction to, and build self-motivation in high ability sixth grade students. It was felt that students must be in the driver's seat for them to have ownership for working up to their potential. Goal setting would help direct students to focus on their educational and future desires. Reflective writing would provide students with a tool for self-assessment. Reflective thinking and writing would lead students to a greater sense of responsibility toward the goals they had set and to a greater understanding of their accomplishments resulting in self-motivation.

The objectives for the program were for students to show a twenty-percent increase in their goal accomplishment measured by student scoring through the use of a rubric and a twenty percent increase in ability to write reflectively measured by student and teacher scoring through the use of a rubric. Both objectives were met with the target group improving in both areas. Appendixes include goal setting forms and reflective thinking questions.

Nova Southeastern University
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Practicum Title Increasing Reflective Writing and Goal Setting Skills in High Ability Sixth Grade Mathematics students.

Student's Name Sharon Edwins Completion date 5-31-95

Project Site Hyde Park Middle School Academy of Science & Mathematics

Mentor's Name Patricia M. Lamonica (signature)
print *signature*

Mentor's position at the site Principal Phone # 799-4260

Comment on impact of the project (handwritten):

Table of Contents

Page

Title Page..... i

Abstract..... ii

Authorship/Document Release..... iii

Project Verification..... iv

Table of Contents..... v

List of Tables..... vii
Table 1 23
Table 2 24
Table 3 27
Table 4 28

Chapters

I. Purpose..... 1

II. Research and Solution Strategy..... 9

III. Method..... 16

IV. Results..... 22

V. Recommendations..... 32

Reference List 35

Appendixes

Appendix A: Letter to Parents..... 39

Appendix B: Goals List (Short & Long-Term).... 41

Appendix C: Goals List (Short & Medium-Term).. 43

Appendix D: Life Path..... 45

Appendix E: My Short-Term Goals..... 47

Appendix F: My Medium-Term Goals..... 49

Appendix G: My Long-Term Goals..... 51

Table of Contents (continued)

Appendix H: Progressfolio Reflection Questions..... 53

Appendix I: Progressfolio Reflection Questions Rubric..... 55

Appendix J: Short-Term & Medium-Term Goals (Half-Sheet)..... 57

Appendix K: Special Goal Boosters..... 59

Appendix L: Goal "Wall Posters"..... 61

List of Tables

Tables		Page
1.	Goal Achievement Data (Objective 1).....	23
2.	Student Evaluated Goal Achievement Results.....	24
3.	Reflective Writing Data (Objective 2).....	27
4.	Student and Teacher Evaluated Reflective Writing Results.....	28

CHAPTER I

Purpose

Background

The target area for this practicum was ranked eleventh largest school district in the United States with an enrollment of approximately 156,300 students. The district operated 184 schools. There were 127 elementary schools, 27 middle schools, 24 senior high schools, and six schools that provided for special educational needs. There were over 16,000 full and part time personnel employed by the district. Approximately 9,200 were licensed, and 600 were administrative personnel. The total population of this district was over 986,000 people with a projection for continued growth.

The author earned a Bachelor of Arts degree in Secondary Education (Physical Education) from California State University Long Beach. She taught junior and senior high school for a large metropolitan school district for eight years. She left teaching to run her own business and simultaneously worked for a large aerospace corporation.

After ten years of running her own business, she returned to college to complete courses for

certification to teach mathematics. She began teaching for a progressive, fast growing southwestern school district where she taught mathematics to sixth grade students for four years. This was the author's fourth year of teaching at the sixth grade level with the target district. She has participated in the teaming concept, attended several professional conferences, helped on a syllabus writing task force, and was a Specialist Leader in the Mathematics And Science Enhancement project (MASE).

At the time of this practicum, the author was assigned to teach sixth grade mathematics at the target district's first middle school Magnet Program for Science and Mathematics. The school was on a single session, nine month program. Students from the entire target district made application to attend the magnet program. Applications were reviewed by a team which was represented by educators and the community. Each application was evaluated and ranked by the student's current academic performance, latest stanine scores, written recommendations, and student paragraphs. Due to limited seating, approximately one-fifth of the applicants were admitted by the team. Students attended regular middle school academic curriculum with extended science and mathematics classes. Science and

mathematics classes were 75 minutes long. All classes meet five days a week. The student to teacher ratio for regular classes was 35 students to one teacher and for their mathematics class the ratio was 20 students to one teacher.

The responsibilities of the author at the time of this practicum were teaching mathematics through a curriculum that offered high level mathematics using investigations, thinking skills, problem solving, and hands-on experiences. The focus of the author was to implement mathematical investigations and problem solving for students to develop their own understanding of mathematical concepts.

Problem Statement

The sixth grade team of teachers working with high ability students at the target school felt that many of the students despite their high ability were underachieving. The under achievement of so many capable students presented a significant problem for the magnet school program. The discrepancy was the gap between actual and expected achievement ability. Some students showed little concern when confronted with the prospects of getting a reduced grade for late work or a zero for not attempting assignments. Other students would request that the teacher restate the problem or

directions numerous times along with the answer which was being sought. Numerous parent and teacher conferences were held because of the frustration the students who were not living up to their potential and with the intent of getting the students back on track. The conferences usually centered around student lack of effort, not being clear on the requirements of the assignments, unorganized thinking on how to approach the tasks, poor planning for scheduling time, and frustration then shut down from trying to please both parents and teachers. Some improvements were noted after the parent conferences. Student work effort, questioning for assignment clarification, and quality of class was improved.

Teachers and parents of high ability students felt these young people could meet and maintain the high level of their proven potential. During those meetings, the problems and results described above were discussed. The teacher group had noted that students in general demonstrated the same pattern as noted above: unclear assignment requirements, disorganization of priorities in planning and time schedules, frustration and shut-down were a reoccurrence by students who had parent conferences, as well as, students who were conferenced by the teacher alone.

The target group was a portion of the applicants who were evaluated as a high ability group drawn from throughout the target district's area. Why did some students with high potential fail to live up to it? Webb, Mechstroth, and Tolan (1994) stated that the thoughts and experiences that students carry around in their heads typically were far more important and interesting to them than what was going on around them. Students had a variety of needs, fears, and aspirations in a world where many of the traditional supports had weakened. The desire for independence and to demonstrate self-control prompted them to engage in power struggles. Students could often become rebellious when feeling frustrated. Sometimes they were likely to rebel openly in school, at home or in society, even become overtly delinquent. Power struggles between the students and their parents, classmates, or teachers could cause them to rebel. No matter what the cause for the gap between potential and performance, the result was students lost the spark or motivation to be constructive in their academic efforts (Webb, Meckstroth, and Tolan, 1994).

Inappropriate goal setting could lead students to think of themselves as failures. Goals set too high or far off could seem vague and ever unreachable. When

goals were accompanied by the related necessary objectives, they became more attainable, and students were more able to see themselves as successful. Questions students might have asked themselves might have been: How are you going to get there? What do you need to do to accomplish this? What time period is allowed for this? What are your criteria for success? Breaking big goals down into necessary and attainable tasks would help give students a sense of control, and a feeling of competency would come from achieving these intermediate steps. This, in turn, could foster continued motivation and help prevent discouragement. At the sixth grade level awareness of potentials and powers within the individual could occur and could be directed toward development and actualizing of these potentials (Webb, Meckstroth, and Tolan, 1994).

The target district continually offered educational opportunities for their teachers to learn new applications for motivating the students to achieve at their potential. The optimum situation was for students to be self-directed and take responsibility for their successes and failures. The focus of this practicum was to have students bring about change in themselves rather than to wait for change to be imposed from the outside. The students would have to set their

own goals and write reflectively on their goals and class assignments. Motivation for achievement was to become self-driven rather than parent or teacher-driven.

Goals needed to be set. Students needed to learn to set tentative, attainable, short-term, and long-term goals. They needed to be specific. The goals needed to be written and verbally shared. Reflection on goals both short and long range would usually lead to goal clarification. Goal setting would make effort aimed at student wants and needs regulated to their time table rather than that of parents or teachers; thus, students would gain ownership. Students would find it easier to resolve dilemmas because they would be focused on interests that were self-designed (Lions and Quest, 1992).

Outcome Objectives

The outcome objectives of reflective writing on student selected assignments and goal setting would provide an increase in student achievement and fewer parent and teacher conferences related to student under achievement. The following were the objectives that would measure the effectiveness of this practicum:

1. Sixth grade students who participated in the practicum over 12 weeks would show a 20 percent

increase in goal achievement measured by student scoring through the use of a rubric.

2. Sixth grade students who participated in the practicum over 12 weeks would show a 20 percent increase in ability to write reflectively measured by student and author scoring through the use of a rubric.

Outcome objectives would be based on the accomplishment of students' goals and their increased ability to write reflectively about their work.

CHAPTER II

Research and Planned Solution Strategy

Research

Research conducted in the last ten years suggests that one source of the differences between the highest and lowest achievers is the degree to which a person becomes a self-regulator. High achievers engage in goal setting, planning, self-interrogating, and self-monitoring (Biemiller and Meichenbaum, 1992). Participating students have written reflectively on pieces of work in the past, but their motive was that the teacher asked for a reflection. Grades and fear of disappointing their parents were other exterior motivators that students use for getting work completed. Asking students to write reflections without student goals in place, interior motivators, is asking students to think and write without purpose.

When students fall short of expectations, they many times view it as failure. Reasons used to explain failure have to do with ability (I'm stupid), effort (I didn't try hard enough), task difficulty (the questions were too hard), or luck (It wasn't my day). Some of these things are stable and some are variable. One of the variables that students have control over is effort. The key idea here is that success,

persistence, and interest tend to follow when students are helped to think about what they are doing, not how they are doing. There needs to be a focus on effort rather than ability (Kohn, 1994).

Teachers can help with goal setting by modeling identification of goals before planning a lesson or unit. Goals clarify and focus the reason for the lesson and the lesson parts; which are introductory, which are developing, and which are connections with the real world. Why not include identifying goals and reflective thinking as a part of student learning? Learning occurs during verbal interaction, demonstration, writing applications, drawing, and group interaction all of which are characteristics that students need to be able to demonstrate. Students need to incorporate conjecturing, creative inventing, verifying, and problem solving in their thinking and understanding of concepts (Hart, Schultz, Najee-ullah & Nash, 1992).

Guiding students to intellectual excellence can better be accomplished by encouraging students to generate alternatives to problems and to reflect on methods of comparing these alternatives. Evaluation and the means for follow-through are important considerations (Sternberg, 1994). The students learn

not only how to think but also how to act on their thoughts. The ability to ask good questions and to know how to answer them is an essential part of intelligence. A primary means by which intelligence is developed is by internalization. Students can incorporate what is absorbed from being exposed to an environment which models interaction using alternative responses (Sternberg, 1994). Teachers who "think for" students who lack self-direction provide a "mental crutch" by doing student defining, planning, and monitoring of activities. These students become experts at needing help rather than learning to regulate their own tasks or alternatives (Biemiller and Meichenbaum, 1992).

Students need to set goals and identify strategies for accomplishing those goals. Reflecting and self-evaluating on class assignments and goal completion will create an intrinsic motivation for improvement and success. Findings of Goodman and Goodman (1994) on reflective thinking support the idea of providing opportunities for students to self-evaluate. They suggest that the power of reflective thinking is necessary for both the teacher and the learners. It helps to direct activities with foresight and to plan with a purpose.

Teachers in Irvine, California, used reflective writing and have reported higher levels of thought in oral and written communications and in processing of information and understanding of relationships (Tabor, 1988). Wassermann (1987), supports the idea of teachers getting students to respond in a way that engages higher levels of cognitive thinking. This higher order thinking requires more originality and self-initiative. It requires students to take cognitive risks and to work with their own ideas in an active, mental exercise.

Professional writers have long realized that writing can serve as an excellent tool for learning. More and more teachers of all disciplines at all grade levels recognize that writing can be a powerful catalyst for learning. Students who used writing to explain errors on homework and quizzes, and wrote how to do..(something) papers performed above the control group, even though the control group had slightly better students (Jenkinson, 1988).

Planned Solution Strategy

Implementation of a successful goal setting and reflective writing program will require close attention to six key aspects: class preparation, selection of the Progressfolio Requirements, selection of the

criteria for the Mathematics Progressfolio Rubric, selection of the questions for the Progressfolio Reflective Questions, selection of criteria for the Progressfolio Reflection Questions Rubric, and preparation for the goal intervention.

The aim will be for students to become more independent. It will be necessary to clarify the instructional purpose of the goal setting and reflective writing activities with the students. Students will need to understand the new direction they will be heading and the expectations for their active participation in the changed environment. They will need to know what the criteria is for them to be successful. The criteria needs to be presented to them at the onset of their assignments (Tierney, Carter & Desai, 1991).

Selection of questions for the Progressfolio Reflective Questions sheet will need to provide students with questions that focus students to critically discuss their own thinking and growth related to the goal areas in mathematics and their personal educational goals. California and Vermont have successful portfolio programs in place with reflective writing and they note that reflection and introspection are not easy at first. Students are

accustomed to relying on the teacher's judgment about their work, and they may find it threatening to react both critically and honestly about their own performances (Bennett & Forman, 1991).

The criteria for the Progressfolio Reflection Questions Rubric is a version of a rubric that the author has used in the past. Students will be given a copy of the rubric at the onset of the project. This holistic scoring approach provides students with a guidelines for analyzing their work.

Students will need goal setting intervention. Intervention will include instruction on goal-setting and goal achievement techniques by the target school counselor, time for students to identify goals, and activities to categorize goals into lists of short-term and long-term. Students will spend time reflecting on all of their goals and more specifically educational goals. Intrinsic motivation can be sabotaged when curiosity is replaced by rewards and punishment provided by teachers. Therefore, students will need to find their intrinsic motivators to help them reach their potential. When students set their own goals, they create their own maps for achievement. Students will emerge as learners through inquiry, critical thinking, analysis, and creative thinking. Students

will become self-driven with teacher guidance (Caine & Caine, 1994).

Monitoring the project will be accomplished through student conferences, keeping notes, and keeping records of student performance through rubric scoring. The author will present a model for participants to follow.

CHAPTER III

Method

This practicum took twelve weeks (not including Spring Break) to implement. Each week offered students activities that helped guide them to success in achieving goals and writing reflectively. A letter to parents was sent home informing them of plans to incorporate goal setting and reflective writing into their students' mathematics class (Appendix A:36). At the onset of the practicum, implementation students were introduced to goal writing, goal achievement, and reflective writing as part of their class routine. The author and counselor instructed. The students through peer conferencing provided instruction. The classroom structure provided time each day to be spent on the goal setting and reflective writing activities. Some events that were scheduled on the school master calendar caused adjustments to the time needed for these practicum activities. The introduction instruction and discussion process took three weeks. Goal setting and Progressfolio reflective writing occurred at the onset of the practicum and at weeks four, eight, and twelve. Progressfolio checks during weeks four, eight, and twelve included students sharing Progressfolios with parents and parents writing a

response to students in the form of a letter which was included in the Progressfolio. The student Progressfolio scores on reflection questions and goal achievement were charted for each student and attitude changes were noted by the author.

During weeks one and two, the target school counselor instructed students on developing and achieving goals. Students used the Goals List to write their Short-Term (3 week), Medium-Term (4-8 weeks), and Long-Term (High school & beyond) Goals and plotted them on their Life Path form (Appendix B-D:38-42). After the initial long list of goals was used the first time, the form for listing goals was reduced to a shorter form (Appendix J:54). Stimulated by the initial lists of goals, students, counselors and the author participated in discussion about how achievable goals would look on paper and how to write specific, challenging, and attainable goals. A new form was generated to help students organize their thoughts about blocks or the things that get in the way of achieving goals and the solutions for overcoming those blocks (Appendix E-G:44-48).

Also during weeks one and two, time was spent reviewing the Progressfolio Reflection Questions sheet and the Progressfolio Reflection Questions Rubric sheet

that was to be used for scoring their reflective writing (Appendix H-I:50-52). Students wrote their first reflective papers for their Progressfolios. Progressfolios were shared with parents, and parents were asked to write a response to students in the form of a letter which was included in their Progressfolios.

In week three, the video, Redesigning Assessment-Introduction (1992) was viewed followed by class discussion about reflective writing and its meaning for students. Students participated in peer conferencing to analyze the thoroughness and completeness of their reflective writings. The original Short-Term and Medium-Term Goals form was redesigned to a half sheet size and to include the rubric scale to provide for easy student reference. Students wrote Short-Term and Medium-Term goals to achieve during the next three weeks (Appendix J:54).

During the fourth week, students reviewed their goals, scored goals, spent time discussing and reflecting on goals, and then wrote new goals. Students wrote reflections for each piece of work they chose to place in their Progressfolio. Progressfolios were shared with parents, and parents wrote a response to their student in the form of a letter which was retained in the Progressfolio. The teacher evaluated

the Progressfolio using the Mathematics Progressfolio Rubric.

The fifth week involved more peer conferences. The author introduced Goal Boosters, multicolored strips of paper for students to write and exchange encouragements among themselves (Appendix K:56). Writing Goal Boosters provided a positive way for students to compliment and encourage each other. Wall posters were placed around the class room as models to encourage students. The author made and posted on the wall some encouraging phrases from the Goal "Wall Posters" list (Appendix L:58).

During week six, students chose work from another subject area that showed use of mathematics and wrote reflectively. Students wrote Short-Term and Long-Term goals. Time was provided for sharing written goals with other students.

Weeks seven and eight provided time for peer conferences. Additionally, the book, Oh, the Places You'll Go! (Seuss, 1990) was read to the students. Observations of students showing signs of year end fatigue prompted the author to include the story. The author wanted to bring the students' focus back to their goals and reflective writing. The story provided a view of life's opportunities and some of the blocks

that get in the way while heading toward a chosen direction. Students had time to review their goals, score them, have discussion about goals, reflect on goals, and then write their new goals. Students wrote reflections for pieces of work they chose to place into their Progressfolios. Progressfolios were be shared with parents, and parents wrote a response to students in the form of a letter which was kept in the Progressfolio.

During week nine the video, Redesigning Assessment-Portfolios (1992) was shown with discussion following the video. Students wrote reflectively on the video.

Week ten included time for the author to provide encouragement for the students to continue setting and achieving goals and writing reflectively.

During weeks eleven and twelve students accomplished final reflections for their Progressfolios. Students participated in peer conferencing using reflective writing with a different person than they conferenced with the previous time. They spent time reviewing their goals, discussing, and reflecting on goals they had accomplished. Students and author scored students' final goals and reflective writings. Students evaluated the goal and reflective

writing experiences and turned them in to the author. At the end of twelve weeks, all reflective writing papers were placed in student Progressfolios and proudly taken home.

CHAPTER IV

Results

The implementation of goal setting and reflective writing produced positive results. The students showed enthusiasm and were eager to set goals, write reflectively, and evaluate the results. Implementation of goal setting and reflective writing was carefully monitored and measured for levels of improvement by the author. Implementation began March 1, 1995 and ended on May 31, 1995.

The first outcome objective of this practicum was to show a 20 percent increase in goal achievement measured by student scoring thorough the use of a rubric. Goals were measured (scored) every three weeks, and new goals were written for the next three weeks. The author kept a record of scores on student goal accomplishments and kept notes on observations.

The second outcome objective of this practicum was to show a 20 percent increase in reflective writing measured by student and teacher scoring thorough the use of a rubric. Reflective writings were measured (scored) every three weeks. The author kept a record of both student and author scores on students reflective writing. Scoring was performed by the author while the students score was not visible. After

twelve weeks, the author analyzed the results.

Table 1
Goal Achievement Data
(Objective 1)

Student	Student Evaluated Pre-test	Post-test
A	3	4
B	4	4
C	3	4
D	4	4
E	3	2
F	2	LOST
G	4	3
H	3.5	3.5
I	4	4
J	4	4
K	3	3
L	2.5	3.5
M	3.5	3.5
N	3	4
O	2	3
P	2.5	2.5
Q	3	4
R	3	3
S	3	4
T	3.5	3.5
U	3.5	3.5
V	4	4
W	3.5	2
X	2	3.5
Y	3	LOST
Z	3.5	1.5
AA	4	2.5
BB	3.5	1.5
CC	1	3.5
DD	4	2
EE	3.5	3.5

Table 2

Student Evaluated
Goal Achievement
Results

Description	Percent
Improvement - Achievement Increased by 25 % or more	29%
No Improvement	42
Decreased - Score Declined	23
Lost Goal Lists	6

The first objective of this practicum was successfully achieved. After twelve weeks, the author analyzed the results. Twenty-nine percent of the Sixth grade students showed an increase of goal achievement by twenty-five percent or better. Forty-two percent showed no improvement, twenty-three percent showed a decline in goal achievement, and six percent of the students show only one or no scores recorded. When this practicum started, many of the students stated that they had never been asked to create their own goals. The goals they had tried to achieve in the past were mostly generated by someone else such as their parents, coaches, music teachers, or Karate

instructors. Review of the written goals and the achievement scores revealed that there was inconsistency in achievement of goals as well as a pattern. Some individual students experienced the pattern right away, some after failures, some at the last goal, and some never attained consistency. At first, many of the goals were not specific. Some examples of those goals were "mow the lawn", "organize my back pack", "save money", and "get A's (grades)". Then goals got more specific but too difficult to achieve. The author noted students saying, "It was too big of a goal", and "I thought $150.00 was too much to try to save, but it was a goal". Finally, students' goal writing got specific and more attainable. The following examples came from students Short-Term (three week) Goal sheets: practice soccer at least 3 hours a week", "turn in all assignments for 3 weeks", and "earn $5 a week". At the end of the practicum, students were asked to evaluate how goal setting affected them. The following statements are quotes from their evaluation papers: "The positive effect is that you feel better about yourself when you discover that you completed and successfully finished this goal of yours." "I have learned to stretch myself." "It helped me to keep a good focus on my future and my abilities." "I've

learned that you can't set goals that are too far to reach." "I learned that goal setting can be fun and rewarding, but it is hard work." "I think that it helps you to stay more organized in your life so that you will be more aware of yourself." One of the students who struggled the most with goal achievement, and whose scores showed little or no achievement wrote, "I haven't done a goal 100 percent yet I have gotten better on them", and "I learned that goal setting has helped me to get closer to achieving what I want to achieve."

Goal Boosters created excitement in the class. Students could not believe that they were given time during class to write encouragements to other students. Some asked the author, "What do we say?", or "How do you encourage people to get goals?" The author asked them to think about their own experiences when someone said something that encouraged them. Several examples were shared by students. They asked, "Can we write one to ourselves?" The author answered, "Yes."

Table 3

Reflective Writing
Data
(Objective 2)

Student	Student Evaluated Pre-test	Student Evaluated Post-test	Teacher Evaluated Pre-Test	Teacher Evaluated Post-Test
A	3	4	3	3.5
B	4	4	3.5	3.5
C	3	4	3.5	4
D	4	4	3	4
E	3	3	3	4
F	4	2	2.5	3
G	2	4	4	4
H	2	3	2	4
I	4	4	4	4
J	3	4	4	4
K	3	4	4	4
L	4	4	3	4
M	4	4	3	4
N	4	4	4	4
O	3	2	3	3.5
P	3	4	4	4
Q	3	4	3	4
R	4	4	3	4
S	3	4	3	4
T	4	4	4	4
U	3	3	3	4
V	3	4	3	4
W	3	4	3	4
X	3	4	3.5	4
Y	4	4	4	4
Z	4	4	4	4
AA	3	4	3	4
BB	3	3	3	4
CC	3	3	3	3
DD	2	3	3	4
EE	3	4	3	4

Table 4

Student and Teacher Evaluated
Reflective Writing
Results

Description	Student Evaluated (Percent)	Teacher Evaluated (Percent)
Improvement - Writing Increased by 25 % or more	52%	48%
No Improvement Consistent Rubric Scores of 3 & 4	42	32
Some Improvement	0	20
Decreased - Score Declined	6	0

The second objective of this practicum was successfully achieved. After twelve weeks, the author analyzed the results. Sixth grade students scored themselves as follows: Fifty-two percent showed an increase in reflective writing ability by twenty-five percent or better. Forty-two percent showed no improvement (while consistently scoring in the rubric three and four range). Six percent showed a decline in writing ability. The author scored students as follows: Forty-eight percent showed an increase in reflective writing ability at twenty-five percent of better. Thirty-two percent showed no improvement (while consistently scoring in the rubric three and

four range). Twenty-percent showed some writing ability improvement and no one showed a decline in writing ability. When this practicum started, the students had already experienced some reflective writing in the mathematics class. Students showed more confidence in being able to write reflectively even though they were given new guidelines and a more complex rubric than they had already used in class. The new guidelines and rubric helped students become better writers. The student evaluation score of fifty-two percent showed an increase in reflective writing ability by twenty-five percent or better. The author evaluation score of forty-eight percent varies because two students who consistently scored themselves with a four rubric were often perceived as having higher values on their work and ideas than was thought by the rest of the students or was evident by class assignments. The twenty-percent showed score for some improvement represents students who scored less than twenty-five percent improvement. Students as a whole saw themselves less improved than the author saw them. Both high and low quality writers benefitted from peer conferencing. The peer conferences revealed to students gaps of information in their writing. At the onset of student reflective writing, many students asked the author to check their work to see if it was

"OK?". The author resisted giving the students an "OK" The students were asked what they thought about their writing. As time passed, the quality of work become better as evidenced by improved sentence structure, neatness, and thorough descriptions.

At the end of the practicum, students were asked to evaluate how goal setting affected them. The following statements were taken from their written responses when asked, "What did you learn about reflective writing?":

> "I learned that reflective writing helps you worry more about how to improve your work instead of just keeping track of grades."
>
> "I learned from reflective writing that it makes you feel much better about yourself."
>
> "...you look over your work and remember the good things about your previous work. It helps you remember things to do on next works and things not to do next time."
>
> "I learned that while doing reflective writing I have to write down how I felt about work I did."
>
> "...reflective writing can be about anything at all. You can use reflective writing for any subject that you feel reflective writing can help."
>
> "I've learned that you must reflect or you will forget why or what you did."
>
> "I learned that reflective writing will always make you feel good about your achievements. Reflective writing is a way to unleash all of your feelings about an assignment. I think that reflective writing is one of the best ways of feeling good about yourself."

Reflective letters returned by parents who wrote about what they saw while reading their childrens' work and reflective writings were positive and stimulated more effort from their children and this author. The following were some of the words used in letters returned to students from parents: "proud", "impressed", "appreciate", "enjoyed", "delighted", "wonderful", "love", and "thank you." In addition to the letters, parents expressed happiness and enthusiasm about the goal setting and reflective writing in conversation with this author.

The objectives stated by the author have been achieved. The author has observed and noted that an increase in student self-assurance, leadership, cooperative learning skills, and academic achievement occurred during this practicum. Therefore, the author plans to continue working with students in the following school year to work toward development of better more efficient ways to implement goal setting and reflective writing.

CHAPTER V

Recommendations

The principal and teachers at the target school have shown interest in the process and results of this practicum. Summer break followed this practicum; therefore, the results and revised procedures will be shared with educators in the following school year. Educators have been looking for alternate methods which would get students working at their educational potential. The author will share the results and revised procedures at a mathematics department in-service at the target school. The author has shared the results of this practicum with some students and their parents and have encouraged them to continue using their new skills of goal setting and reflective writing.

The author of this practicum anticipates continuing goal setting and reflective writing with some modification. The author would like to begin the school year with goal setting and reflective writing and lengthen the time for students to achieve Short-Term Goals to five weeks. This would provide students opportunity to include goals that are aligned with quarter/semester grades and assignments. Peer conferencing proved very influential for reflective writing; therefore, time will be provided once a month

for this activity. Computers in the class room would help improve some of the scores of students who consistently struggled with writing, spelling, and hand writing neatness.

Parents, students and educators in the Magnet Program have high expectations for student achievement. The program at the Magnet School is accelerated and geared to challenge high ability students. Students at the Magnet School have proven by past achievement, test scores, stanine scores and other entrance criteria to be capable candidates for such a program.

The author's experience in the Magnet School mathematics classroom, especially at the sixth grade, has found that these students, though highly qualified for the program, too often found it difficult to stay focused and actually achieve at their ability level. These qualified students were too often under-achieving. The strongest forces of motivation for these students, by the author's research, were primarily parent expectation, instructor expectation, and a letter grade.

The authors' experience with this practicum while in the classroom has proven a need for assisting young students to learn organizational skills and goal setting for themselves. The reflective writing experience has proven motivational in helping highly

qualified students to organize their thoughts and achieve goals commensurate with their ability. The goal setting and reflective writing experiences have helped to create an introspection for students: "I can accomplish what I choose to accomplish." These students chose to achieve for the intrinsic value of success.

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APPENDICES

APPENDIX A

LETTER TO PARENTS

APPENDIX A

February 22, 1995

Dear Parent/Guardian,

In the next few weeks I, as your student's mathematics teacher, plan to incorporate Goal Setting and Reflective Writing as an integral part of my mathematics instruction. This is an effort to introduce students to the value of goal setting, both personally and academically. Reflective writing will lead students to a greater sense of responsibility toward the educational goals they have set and provide them with a greater understanding of their accomplishments.

Thank you for your continued support.

Sincerely,

Ms. S. Edwins

APPENDIX B

GOALS LIST (SHORT-TERM & LONG-TERM)

APPENDIX B

Name _____ # _____

GOALS LIST Date _____ Per _____

(personal, educational, financial and social)

MY SHORT-TERM GOALS (3 weeks):

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____

MY LONG-TERM GOALS (High School & beyond (20's)):

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____

APPENDIX C

GOALS LIST (SHORT-TERM & MEDIUM-TERM)

APPENDIX C

Name _____ # _____

GOALS LIST Date _____ Per _____

(personal, educational, financial and social)

MY SHORT-TERM GOALS (3 weeks):

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____

MY MEDIUM-TERM GOALS (4 TO 8 WEEKS):

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____

APPENDIX D

LIFE PATH

APPENDIX D

Name _____ # _____

Date _____ Per _____

LIFE PATH

Use the goals from your Goal List and sort them on this LIFE PATH.

MIDDLE SCHOOL

HIGH SCHOOL

AFTER H.S. GRADUATION (INCLUDING YOUR 20'S (AGES))

YEARS THAT FOLLOW YOUR 20'S

APPENDIX E

MY SHORT-TERM GOALS

APPENDIX E

Name _____ # _____

Date _____ Per _____

MY SHORT-TERM GOALS

Write a realistic Short-Term Goal (3 weeks).
What do you want to achieve? List the time frame in which you will reach each step to achieve your goal.

_____

_____

Outline the steps to achieve it:

STEPS	TIME FRAME
1.	
2.	
3.	
4.	

List the possible blocks and the ways that you could deal with them:

BLOCKS	SOLUTIONS
1.	
2.	
3.	
4.	

APPENDIX F

MY MEDIUM-TERM GOALS

APPENDIX F

Name _____ # _____

Date _____ Per _____

MY MEDIUM-TERM GOALS

Write a realistic Medium-Term Goal (4 TO 8 WEEKS), (including by 6-1-95). What do you want to achieve? List the time frame in which you will reach each step to achieve your goal.

_____

_____

Outline the steps to achieve it:

STEPS	TIME FRAME
1.	
2.	
3.	
4.	

List the possible blocks and the ways that you could deal with them:

BLOCKS	SOLUTIONS
1.	
2.	
3.	
4.	

APPENDIX G

MY LONG-TERM GOALS

APPENDIX G

Name _____ # _____

Date _____ Per _____

MY LONG-TERM GOALS

Write a realistic Long-Term Goal (High school and college (20's)). What do you want to achieve? List the time frame in which you will reach each step to achieve your goal.

_____

_____

Outline the steps to achieve it:

STEPS	TIME FRAME
1.	
2.	
3.	
4.	

List the possible blocks and the ways that you could deal with them:

BLOCKS	SOLUTIONS
1.	
2.	
3.	
4.	

APPENDIX H

PROGRESSFOLIO REFLECTION QUESTIONS

APPENDIX H

PROGRESSFOLIO REFLECTION QUESTIONS

YOUR MATHEMATICS PROGRESSFOLIO WILL REPRESENT
YOU AS A MATHEMATICIAN.

Select items that represent your mathematics progress.
Make selections from the mathematical assignments/activities you have accomplished during the current semester.

The number of selections you will need will be announced by the instructor. In addition to what other selections you make, include a piece that does not represent your potential ability or that you would call work uncompleted.

DO NOT WRITE YOUR NAME ANYWHERE ON THE FACE OF THE REFLECTION SHEET. FOR EACH PIECE OF WORK YOU SELECT WRITE A REFLECTIVE PAPER AND INCLUDE RESPONSES TO THE FOLLOWING QUESTIONS.

1. State the title of the mathematical concept or topic.
2. State the original question, task or problem.
3 Say what you learned from this experience (to say nothing is not acceptable).
4. Do some thinking! Then, describe any connections between the activity and other subject areas or real-life situations.
5. If you were to do this task again, what would you do differently. Why didn't you do the assignment that way (question 5 response) the first time you worked on the task?
6. List the strategies you used on this piece.
7. Explain why you chose this particular entry.
8. Evaluate your overall performance related to this reflection activity. Use (Appendix I) Student Rubric on Reflection.
9. GOALS: Reflect on the degree of accomplishment you have experienced since stating the goal.

SHORT TERM (3 WEEKS) _____ REGISTER ___
1.
2.

At the end of 3 weeks register the degree of accomplishment for each goal. 0 1 2 3 4
25% 50% 75% 100%

MEDIUM TERM (4 TO 8 WEEKS) _____ REGISTER ___
1.
2.

At the end of 3 weeks register the degree of accomplishment for each goal. 0 1 2 3 4
25% 50% 75% 100%

APPENDIX I

PROGRESSFOLIO REFLECTION QUESTIONS RUBRIC

APPENDIX I

PROGRESSFOLIO REFLECTION QUESTIONS RUBRIC

This is a learning tool. You and your partner together score each of your reflection sheets. Use this sheet as your guide and record your score on the top left corner of your Reflection sheet:
"REFLECTION RUBRIC SCORE IS _____."

4
* I responded fully to all of the response questions.
* I used clear, well organized and detailed explanations.
* When appropriate I used rich and precise mathematical representation in explanations.
* All spelling and punctuation is correct.
* All reflection writing directions are followed.

3
* I was mostly clear in my explanation to the response questions.
* I was mostly organized and used some detail in explanations.
* When appropriate mathematical language was used most of the time.
* Spelling and punctuation is mostly correct.
* Most of the reflection directions are followed.

2
* I completed some of the response questions.
* I show some organization and detail in my explanation.
* I guess spelling and punctuation is correct.
* I used some mathematical language.
* Some of the reflection directions are followed.

1
* I attempted the response questions.
* My writing is unorganized.
* I haven't used mathematical language in my explanations.
* I am not certain about accuracy in the spelling of words.
* Few of the reflection directions are followed.

0
* No attempt to answer the response questions.

APPENDIX J

SHORT-TERM & MEDIUM-TERM (HALF SHEET)

APPENDIX J

Name _____ # _____

3 WEEKS Date _____ Per _____

GOALS: Reflect on the degree of accomplishment you have experienced since stating the goals.
At the end of 3 weeks register the degree of accomplishment for each goal.

0 -> 1 25% 2 50% 3 75% 4 100%

SHORT TERM (3 WEEKS) REGISTER

1.

2.

MEDIUM TERM (4 TO 8 WEEKS) REGISTER

1.

2.

(CUT)

3 WKS

Name _____ # _____

Date _____ Per _____

GOALS: Reflect on the degree of accomplishment you have experienced since stating the goals.
At the end of 3 weeks register the degree of accomplishment for each goal.

0 -> 1 25% 2 50% 3 75% 4 100%

SHORT TERM (3 WEEKS) REGISTER

1.

2.

MEDIUM TERM (4 TO 8 WEEKS) REGISTER

1.

2.

APPENDIX K

SPECIAL GOAL BOOSTER

APPENDIX K

S P E C I A L G O A L B O O S T E R

To: _____ Date:_____

Message: _____

_____

_____

From: _____

(CUT)

S P E C I A L G O A L B O O S T E R

To: _____ Date:_____

Message: _____

_____

_____

From: _____

(CUT)

S P E C I A L G O A L B O O S T E R

To: _____ Date:_____

Message: _____

_____

_____

From: _____

APPENDIX L

GOAL "WALL POSTERS"

APPENDIX L

GOAL "WALL POSTERS"

#1 Promise yourself to learn things that will help you become the best you can be.

#2 Set goals that are high. As the old saying goes, "The sky's the limit." Aim high!

#3 To reach your goals, you need to have a **P**ositive **M**ental **A**ttitude. Without it, you may work twice as hard as anyone else and still not succeed.

#4 Think about the people you admire. Write their mane down and keep it before you. What positive things have they accomplished?

#5 Don't lose sight of your goals. **Take action every day to move in the right direction.**

#6 Self-motivation can help you reach your goals. Create productive words to help guide you to success.